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SUMMER 1980

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Authority Systems *James S. Coleman* 143

America's Most Important Problem—A Trend Analysis, 1946–1976 *Tom W. Smith* 164

The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence *Kent D. Van Liere and Riley E. Dunlap* 181

Pseudo-Opinions on Public Affairs *George F. Bishop, Robert W. Oldendick, Alfred J. Tuchfarber and Stephen E. Bennett* 198

Response Styles in Telephone and Household Interviewing: A Field Experiment *Lawrence A. Jordan, Alfred C. Marcus and Leo G. Reeder* 210

Refusals: Who, Where and Why *Theresa J. DeMaio* 223

CURRENT RESEARCH

Encore! The Forgetful Voter *David Adamany and Mack C. Shelley II* 234

Mass Media Use, Issue Knowledge and Political Involvement *Alexis S. Tan* 241

Subjective Political Efficacy as a Measure of Diffuse Support *Shanto Iyengar* 249

Using Practice Interviews to Predict Interviewer Behaviors *Edward Blair* 257

NEWS AND NOTES *Philip A. Harding* 261

THE POLLS: Changing Attitudes and Policies Toward China
Connie de Boer 267

IN MEMORIAM: Bernard Berelson, 1912–1979 *David L. Sills* 274

BOOK REVIEWS

Critiques and Celebrations of the Newsmaking Process: An Expository Review Herbert J. Gans, *Deciding What's News: A Study of the CBS Evening News, NBC Nightly News, Newsweek, and Time*
David Halberstam, *The Powers That Be*
Michael Schudson, *Discovering the News: A Social History of American Newspapers*
Gaye Tuchman, *Making News: A Study in the Construction of Reality* *Albert E. Gollin* 276

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America's Most Important Problem—A Trend Analysis, 1946–1976

TOM W. SMITH

THE PROVERB "if you want to understand a man, understand his problems" rings as true for a nation as it does for an individual. The areas that the public worries about tell a great deal about how society perceives and interprets a given historical moment. Moreover, by analyzing the problem priorities of subpopulations it is possible to investigate how different socioeconomic and demographic backgrounds affect the evaluation and ranking of problems. Likewise, by examining changes in the cluster of problems over time we can chart the flow of history from the perspective of the participants in the ongoing process. In sum, studying the problem profile of a society and its important components provides significant insights into the working of society, and following trends over time gives an important measure of social change.

To gauge America's problems one can turn to a large body of survey data. Indeed, the public has been asked to share its troubles with Gallup pollsters nearly 200 times since World War II.[1] After

[1] Gallup asked the most important problem question as early as November 1935. Known data points and available marginals before 1945 are scarce and sketchy, however. Since the starting point of a fairly continuous series of data points coincides with the end of World War II, it was decided to restrict analysis to the postwar period. Similar questions have also been used by Harris, Roper, the National Opinion Research Center, and the Survey Research Center, but they are not included in this analysis.

Abstract Using an extremely rich data series, this paper traces trends in America's most important problem from 1946 to 1976. Both long-term and short-term changes in public concern are charted. Additionally, the problem profiles of major sociodemographic groups are analyzed. Changes in the problem concerns of these groups are also followed across time.

Tom W. Smith is an Associate Study Director at the National Opinion Research Center, University of Chicago. This article is a revised version of a paper presented at the 34th Annual AAPOR Conference, Buck Hill Falls, Pennsylvania, June 1979.

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excluding unavailable studies and variant question wordings, there remain 125 surveys from 1946 to 1976 with usable marginals.[2] The standard usage asks, "What do you think is the most important problem facing this country today?" (See the Appendix for the variations and occurrences.) The frame of reference is the country at large, and responses inevitably deal with national or even global concerns rather than local or personal problems. The question also elicits a relative ranking of problems, not an absolute measurement of the level of anxiety in general. All problems compete for the public's attention, and the selection of one concern as most important necessitates the rejection of all others. Over time, it is impossible to determine if people are more or less worried in *toto* or whether they have absolutely a greater or smaller amount of concern about a particular issue. The changing priority assigned to problems can, however, be charted. Thus, the relative rating of national problems can be followed for the entire postwar period.[3]

Given the historical depth, frequency, saliency, and topicality of the most-important-problem (MIP) data, it is surprising that they have received only limited use. There has been little attempt to chart secular trends or short-term shifts in opinion, and little interest has

[2] Among the excluded versions were those that limited responses to a set of announced choices, those that focused on the family, the local community, or some other restricted area, and those that referred to the United States Congress.

[3] Two technical features of the most-important-problem question need to be dealt with—the matters of multiple responses and of response categories. In 106 of the 125 surveys multiple responses were permitted, in 13 only single answers were allowed, and in 2 instances the status is uncertain. The ratio of responses to respondents ranges from 1.01 to 1.35. To handle the multiple responses a new SPSS program, MULT RESPONSE, was employed. This program treats the responses rather than the respondents as the unit of analysis and thereby solves the problem of the extra responses. The second matter that had to be dealt with was the large number of response categories on any particular survey (up to 35) and the even greater number (over 100) that appears among surveys. To make the data analytically manageable and comparable, responses were grouped into four broad categories—foreign affairs, domestic issues, unclassifiable items, and don't knows. Foreign affairs (including war fears, military preparedness, and space) was subdivided into Vietnam-related and other. Domestic issues were partitioned into economic (inflation, unemployment, labor, etc.), social control (crime, violence, moral decline, etc.), civil rights (excluding race riots), government (corruption, lack of leadership, inefficiency, etc.) miscellaneous, listed topics (e.g., education, slums, and environment), and unspecified others. Unclassifiable items consist of categories that could not be assigned to either the foreign or domestic sectors (most frequently the response "Communism"). These nine groups separated problems into substantively distinct areas that were comparable over time and of adequate size.

Checks were also made to see whether the marginals were influenced by such artifacts as (1) variations in question wording, (2) number of responses allowed, (3) coding categories, (4) context and placement, and (5) changes in sample design. Except where noted, none of these factors was found to have an important effect.

been shown in the pattern of concern exhibited by major sociodemographic subgroups in society. The MIP data have most commonly been used to measure the public agenda in the agenda-setting literature (e.g. McCombs and Shaw, 1972; Eyal, et al., forthcoming; Winter, 1979; Funkhouser, 1973b; Palmgreen and Clarke, 1977; and Williams and Larsen, 1977). A second common application has been to relate time trends on one topic to related events or other survey results (e.g. Almond, 1950; Burstein, 1979; and Hibbs, 1978). Only occasionally have the data been used in a historical perspective to follow general trends for extended periods (Bennett and Tuchfarber, 1975; Nie et al., 1976; and Ladd, 1978) or to examine subgroups (Hibbs, 1976; and Douglas et al., 1974).

General Trends

Remarkable shifts have occurred in the ranking of problems over the last four decades.[4] At the end of World War II concerns dealing with reconversion to a peacetime economy, shortages, the termination of price controls, and lingering fears of a return of the Great Depression combined to make economics the dominant problem. As the Cold War heated up in 1947 and 1948, however, more and more attention shifted to foreign affairs. This trend was briefly broken in 1949, when the passing of the immediate postwar crises and the onset of America's first postwar recession swung concern back to economics. After this hiatus, foreign affairs generally dominated the picture from 1950 to 1963, ranking first in 43 of the 45 surveys and usually commanding a plurality of from 35 to 50 percent. During this period economics remained a strong and persistent second, briefly overtaking foreign affairs during the 1954 and 1958 recessions (and coming close during the 1960–61 recession). In 1963, however, the reign of foreign affairs was challenged by the explosive eruption of the civil rights movement. Civil rights ranked as the most important problem for most of the next two years until foreign affairs, boosted by the Vietnam War, regained dominance in 1965. From 1965 until 1970 the Vietnam issue and other international problems generally topped the problem lists. The single break occurred in August 1967, when that long hot summer of riots pushed social control to first place. Over the next two and a half years (1970–1973) the situation became very fluid. The 14 available data points show foreign affairs on top 6 times, social control 5 times, and economics 3 times. Finally, in 1973, economics

[4] Marginals for the 125 data points are available upon request from the author.

emerged as the most important problem, and persists as such down to the present.

To fill out the outline sketched above, the more important categories—foreign affairs, Vietnam, economics, civil rights, social control, and government—will be examined individually. In the case of foreign affairs, much of the trend has already been described. As Figure 1 shows, international issues rise quickly in the confrontation-prone late forties (e.g., the fall of Central Europe and China, the Berlin blockade, the Truman Doctrine). After temporary slippage in 1949, and again in 1954 and 1958, foreign affairs entered its long era of dominance, reflecting strong, persistent, and stable public concern about war and external Communism despite the peaks and valleys occasioned by particular crises and events.[5] From 1963 to 1965, concern about foreign affairs sagged as the civil rights movement gained attention. By mid-1965, America's escalating involvement in Vietnam had returned foreign affairs as the majority choice. From then until the present, however, foreign affairs slid into a long secular decline, with concern falling about 5 percentage points a year until it virtually disappeared as a topic in 1974. (The notable deviations from this trend occurred in mid-1972, when the Vietnam War flared up with the North Vietnam offensive of March 30 and the United States mining of Hanoi in May, and in January 1973, after the Christmas bombing offensive.)

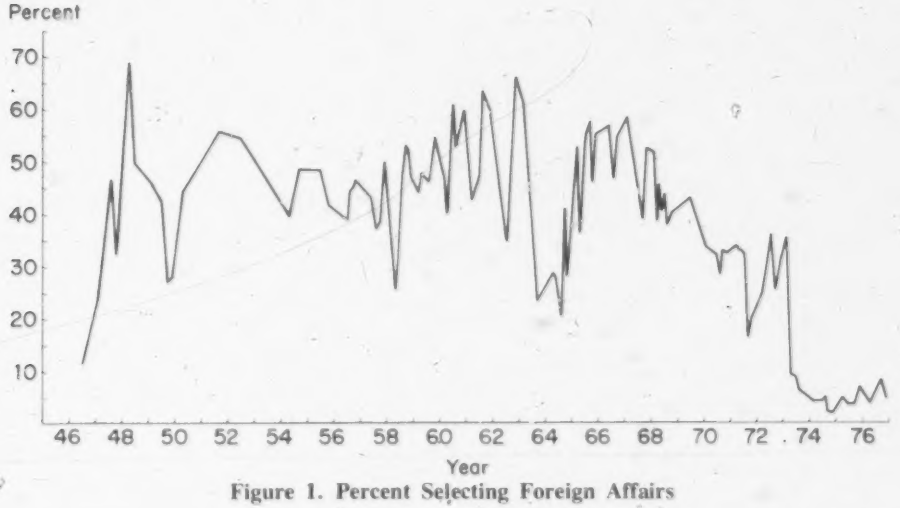

Figure 1. Percent Selecting Foreign Affairs

[5] This paper does not seek to explain the precise timing or magnitude of each shift, but focuses on long-term trends.

This decline is all the more remarkable when it is broken down into its Vietnam and other subcategories (Fig. 2). In 1964, just before the emergence of the war, about 35 percent chose international issues. With the recorded entry of Vietnam in May 1965, foreign affairs rose to 55 percent. Vietnam's share of the international sector increased until, from 1966 to 1969, it accounted for from 80 to 90 percent of the category.[6] After that point the Vietnam issue declined rapidly in 1969–1972, peaked and again dropped in 1972 and 1973, and then disappeared in mid-1973. What is striking is that no other foreign worry replaced Vietnam; with the end of the Vietnam troubles, the public apparently ceased to consider foreign problems "most" important.

Turning to the changes in economic problems, one is immediately struck by the basic U-shaped trend (Fig. 3). Economics predominated immediately after the close of World War II, when a host of economic problems beset the land (shortages, double-digit inflation, depression fears, and a nationwide labor strike). From then until the mid-sixties economic fears declined, though on the short term moving with the business cycle (showing peaks during the recessions of 1949, 1954, 1958, and 1960/61). From 1964 through 1969 economic concerns remained at a low ebb. Then, in 1970, pocketbook problems began to shoot up sharply along with the consumer price index until, by the fall of 1974, three-quarters of the public cited inflation and other economic troubles as the most important problem. Since then concern

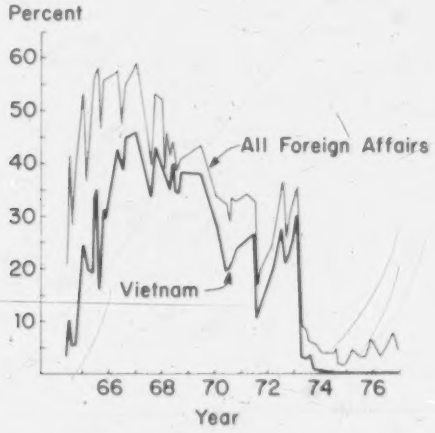

Figure 2. Percent Selecting Foreign Affairs and Vietnam, 1964–76

[6] Published marginals for AIPO 761 and 764 show all foreign responses referring to Vietnam. This results from the inclusion of the few non-Vietnam references with Vietnam.

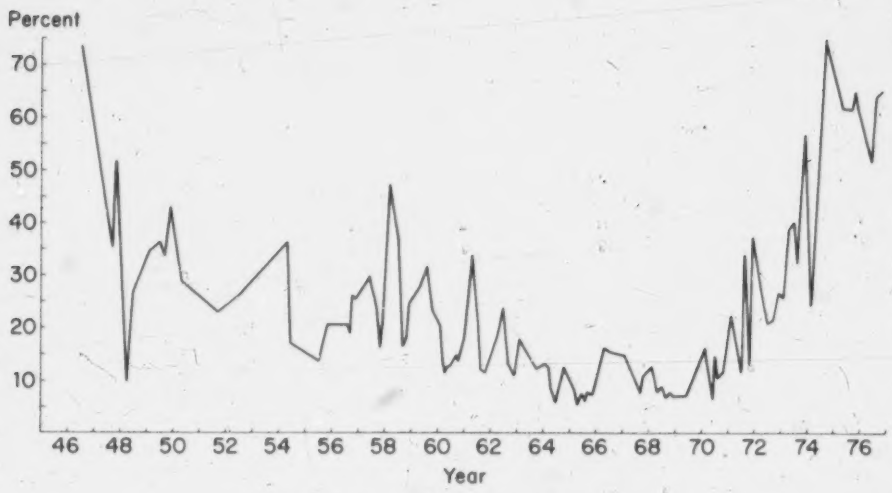

Figure 3. Percent Selecting Economics

has again waned, a trend that was not interrupted by the 1975 recession. In general, the level of economic concern as indicated by the MIP question appears to be highly correlated with both objective indicators (the consumer price index, indices of manufacturing production) and subjective indicators (ISR's consumer sentiment index). For example, the serial correlation of the percentage choosing economic problems and the consumer sentiment index from 1952 to 1975 was −.661 (i.e., consumer optimism correlates with low economic concern). Since the matched data points were often several months apart and since MIP is a relative measure while CSI is not, the strong association is striking.

Overall, inflation has been the economic problem cited most often. Across 94 studies for which detailed breakdowns were possible, an average of .595 chose inflation (including high taxes), .283 selected unemployment (including automation, recession, and employment opportunities), and .122 selected other economic problems (e.g., labor unions and strikes, farming, foreign trade, shortages, and reconversion after World War II). This distribution of economic problems was not stable across time, however. Figure 4 shows what proportion of all economic responses mentioned inflation. Low points occurred in 1949, 1954, 1958, and 1961, during postwar recessions, and similar drops appeared during the 1970–71 slowdown and the 1975 recession. Peaks appeared in 1966 and 1974. The 1966 point in part reflects the beginning of the 1966–1975 inflationary spiral, but in part appears to reflect the relative absence of unemployment and other economic problems at that time. The 1974 crest, on the other hand, probably

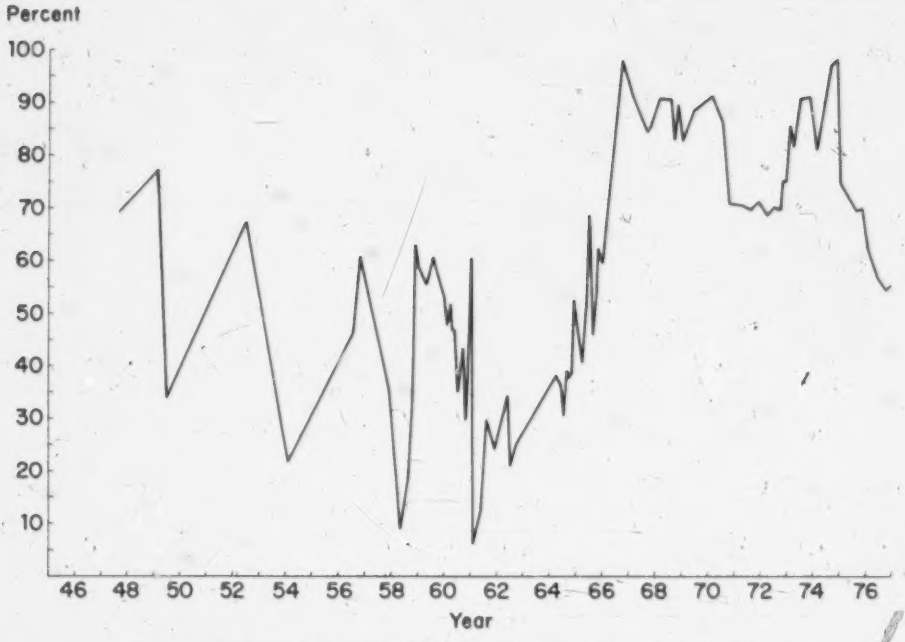

Figure 4. Percent Selecting Inflation Among Economic Problems

reflects the double-digit inflation that crested that year rather than the absence of other economic concerns. The secular trend, once the large cyclical swings are set aside, was for inflation to decline as the prime economic problem from the late 1940s to 1961 (note that each trough hits bottom at a lower level) and for it to rise as an economic concern from 1961 to the mid-1970s. Since then it has been fluctuating at a high level.

The next topic, civil rights, was virtually unrecognized as a problem area until 1956, when the civil rights movement was born with the Montgomery bus boycott (Fig. 5). Concern rose quickly until it

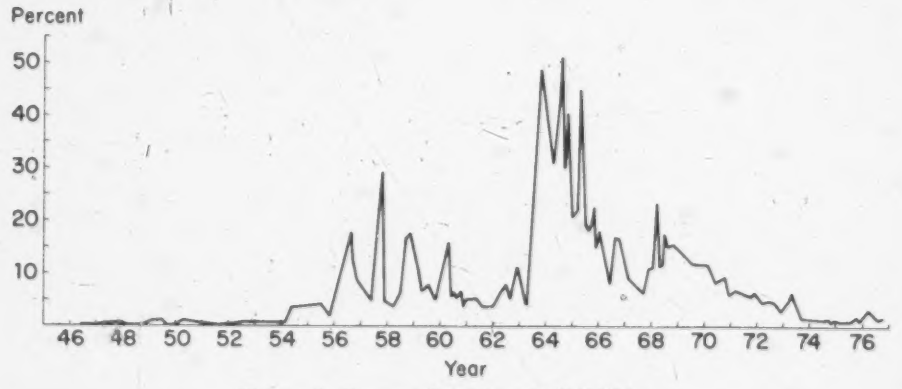

Figure 5. Percent Selecting Civil Rights

peaked in the fall of 1957, during the Little Rock school desegregation battle. Smaller peaks occurred during the renewed Arkansas and Virginia school desegregation fights in the fall of 1959 and the lunch counter sit-ins in the spring of 1960. Worry then subsided rapidly until, from mid-1960 to early 1963, it rested at pre-Montgomery levels. A second takeoff occurred in the fall of 1963 following a summer of intensified civil rights activity capped by Martin Luther King's "I have a dream . . ." speech at the Washington Monument in August. From then through early 1965, civil rights remained at or near the top of the problem list. Pushed aside by Vietnam and other problems, civil rights concern fell to less than half its peak level during 1965–1969. After that point, civil rights once again practically disappeared as a matter of "most important" concern.

Social control barely made the problem list in the late forties (Fig. 6). Then fears about Communist subversion reached a peak in the spring of 1954, during the celebrated Army-McCarthy hearings. With the disappearance of concern over the Red Peril, the social control problem was reduced to a small level of worry about juvenile delinquency and other criminal matters. This situation continued until 1965–1966, when a mixture of fear of crime, moral decline, and violence began to push the level of concern upwards. This swell was changed into a torrent by the race riots of 1967.[7] Concern moderated in 1968–69 with the subsidence of race riots, then climbed to another peak in the fall of 1970, following a spring and summer of campus and race riots, the escalation of violence

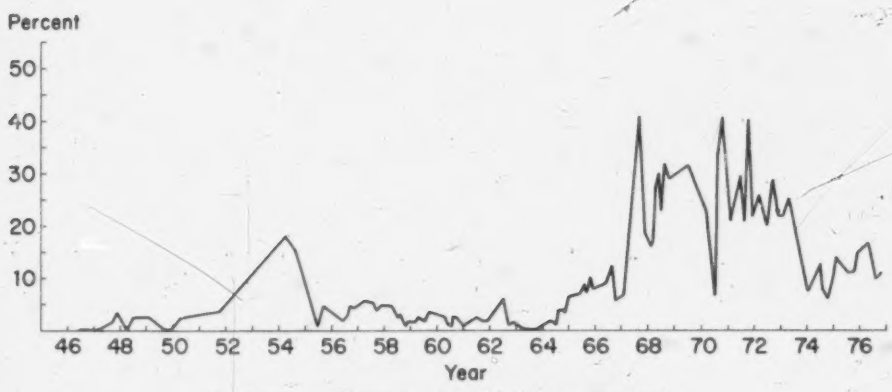

Figure 6. Percent Selecting Social Control

[7] By the Kerner Commission's count there were 8 major and 33 serious riots in the first nine months of 1967.

as a political issue, and the issuance of the Scranton report.[8] With the decline of campus trouble, the social control leveled off around the 20 percent level in 1971–1972.[9] The end of riots, violent political confrontations, and unrest in general contributed to the further decline of the social control issue in 1973–1974. Since then it has consisted largely of worry about crime, which remains well above levels of the 1960s.

The last problem area, government, has never ranked as the most important problem and, in fact, before 1973 was rarely judged a problem at all.[10] The problem, focusing on both corruption in government and a more generalized dissatisfaction and lack of trust in government, emerged with Watergate and reached its peak of 23 percent just before Nixon's resignation (Fig. 7). While this action ameliorated the problem, the government issue remains well above its pre-Watergate level.

Of all of the other miscellaneous problems selected over the three decades (including "Mosquitos," "There aren't enough men for us girls who aren't married," and "Minding their own business"), few ever captured a notable number of responses. Only in one instance did the "other" categories contain the plurality of responses. Energy, which first appeared as a problem in spring of 1973, averaged .021 in 1973 before shooting up to .342 in January 1974 during the Arab oil embargo. By May 1974, however, concern had fallen to .039, and from then until the end of 1976 averaged only .028.

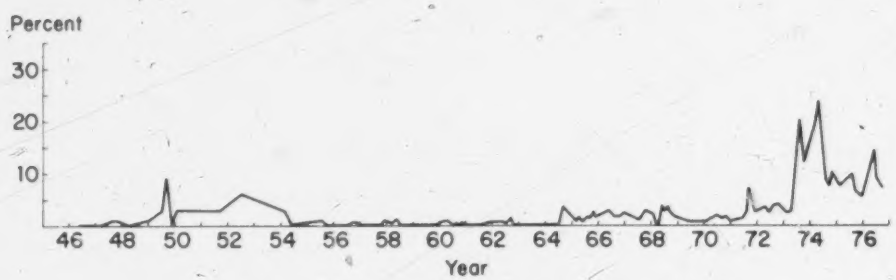

Figure 7. Percent Selecting Government

[8] The apparent drop in May 1970 results from a large number (.251) of undesignated responses.

[9] The peak in October 1971 results from the variant question wording. It appears to produce more violence-associated responses and includes a category, "hippies/younger generation," that was selected by 9 percent.

[10] Each of the three small prior rises in 1949, 1952, and 1971 appears largely tied to question format. The 1949 point specifies government in the question, the 1952 codes a lot of political references, and the 1971 wording produces different marginals from the standard wording on several categories.

Other miscellaneous responses also made up an unusually high level (.100+) of problems on 15 other surveys (AIPO 443, 699, 797, 807, 811, 824, 831, 836, 840, 844, 853, 855, 858, 859, and 864). AIPO 443 recorded a peak level of concern about the post-World War II housing shortage (.069), AIPO 811 recorded the high mark of worry about the environment and pollution (.087), and AIPO 699, 797, and 807 had no particular topical emphasis. From February 1971 to February 1973 there was a generally high level of concern about other topics. Ten of the 12 surveys during this period had levels over .100 and they averaged .121. The most frequently selected responses were social welfare concerns (poverty, welfare, medical care, slums, education, etc.), which accounted for about 7 percent of all responses, thereby usually ranking fourth below foreign affairs, social control, and economics and above government and civil rights. The second largest topic was the environment, which averaged just under 4 percent. Since the period 1970–1973 was marked by high fluidity in selection of the most important problem, the high proportion of "other" responses further marks these years as a period of instability, diffuse concerns, and perplexity.

Problems Among Sociodemographic Groups

Clearly, time has had dramatic impact on the problem priorities of the American public. The next question is whether socioeconomic, demographic, and other characteristics have a similar influence and how these background associations interact with time. To examine this matter, 26 data files were available from 1948 to 1976 (AIPO 415, 443, 454, 494, 528, 548, 570, 588, 604, 610, 616, 624, 641, 689, 714, 724, 728, 733, 735, 749, 773, 781, 831, 839, 853, 960 and NORC/SRS 330). While 26 data points hardly compare with 125 and two years are lost from the beginning of the time series, there remains nevertheless a rich and extensive body of data for analysis.

Inspection of the surveys showed that extensive time series analysis was possible for the following standard background variables: sex, age, race, region, community type, education, income, religion, and party identification. Since preliminary work indicated strong time interactions, the time series analysis was routinely conducted for the entire 28-year span, for years 1948–1961 and 1964–1976, and for other special time cuts.[11]

[11] The substantially different marginals indicate that these were distinct time periods. The decision to split the data in this way was reinforced by several technical matters. For example, the data points are split 13 to 13, and Vietnam falls entirely in the latter period.

To examine the relationship between time, the background variables, and the most important problem, *d*-systems were employed (Davis, 1975). The variables are cross-tabulated and differences in proportions between categories are calculated. *D*-system inspects the difference between demographic subgroups such as men vs. women on each of the most important problem categories and tests for its statistical significance. It also tests to determine whether the difference is constant over all data points or whether it interacts with time.

There are three possible outcomes for the test. If the observed differences are not statistically significant, then the model that there are no differences between the categories ($d = 0$) is accepted. If the observed differences are statistically significant, then the pooled difference over all time points is calculated. If the observed differences do not vary significantly from the pooled estimate, then the model that the differences are constant over time ($d = c$) is accepted. If the differences do vary significantly from the pooled estimate, then differences exist between the groups and their magnitude varies with time. This outcome is described as nonconstant. Turning to the data, we find that the comparisons between the background variables and the MIP can be summarized by the following generalizations.[12]

First, compared to the changes over time, the intercategorical differences are generally small. Of the 133 comparisons covering the entire 1948–1976 period, 67.7 percent showed no statistically significant differences, 6.8 percent showed constant differences, and 35.6 percent had more complex models. Not only were most differences insignificant, but even when significant the differences were generally small. The pooled differences on the constant and nonconstant differences averaged only 1.7 percentage points.

Second, the differences vary considerably from period to period and from survey to survey. Most of the significant differences (34 of 43) are nonconstant. A few of these are the product of one or two deviant points, and if these outliers are eliminated, $d = 0$ or $d = c$ models fit the data. In most cases, however, the nonconstant differences are the result of time interactions. Additionally, the time interactions are generally complex and a strict linear fit usually does not fully explain the changes with time. The three typical types of time interactions were period-to-period changes in associations, variations in associations with intensity of problem (i.e., a direct relationship between marginals and the intergroup differences), and party-in-

[12] For a more detailed discussion of associations between the MIP and the background variables, see Smith, 1979.

power effects, where associations interacted with respondent's party affiliation and the party affiliation of the president.

Period-to-period effects occurred when a difference existed during one period but was absent or weaker during an earlier or later period. For example, during the 1950s women were less concerned than men about economics ($d = -5.2$ points), but during the later period the difference declined ($d = -4.1$). Likewise, the South was more worried about civil rights than the North during the early stages of the movement ($d = 11.0$, 1955–1961) than during its later stages ($d = 1.8$, 1963–1976). In these and similar instances we interpreted the change in subgroup differences as resulting either from changes in the perspective of the groups involved (e.g., the decrease of sex differences on economics as more women entered the labor force) or a redefinition of the problem (e.g., the "nationalization" of the civil rights problem as a countrywide and not particularly southern matter). The intensity-difference effect occurred when the magnitude of differences between groups varied with the intensity of the concern. For example, when civil rights heated up during the 1950s and 1960s, it raised the concern of blacks faster than of whites, and when the problem cooled and the marginals declined, black distress dropped more quickly than that of whites.[13] The party-in-power effect happened when differences were influenced by party affiliation of the respondent and of the president at the time. For example, on foreign affairs, Democrats showed higher concern under Truman ($d = 3.7$, borderline significance,) lower worry under Eisenhower ($d = -6.0$), and no difference under Kennedy/Johnson and Nixon/Ford. The association of high concern over foreign affairs with a person's own party holding the presidency was, however, continued during the Kennedy/Johnson administrations by the Democrats' higher ranking of Vietnam as a concern ($d = 5.9$). In brief, the impact of history and other periodic factors is so strong that not only are marginals shifted, but often differences between demographic subgroups are augmented or diminished, created or destroyed.

Third, looking at the overall pattern of differences, we find that while most are quite small and fluctuating, they are clearly related to the self-interest, socioeconomic roles, and subcultures of the groups. For example, blacks were more concerned about civil rights and less about foreign affairs. Women have been more worried about war[14] and

[13] The marginals on civil rights and black-white differences correlated $r = .714$ during the 1947–1965 period. There is undoubtedly some artifact in this since larger marginals allow more room for subgroups to vary and the probability for wider differences increases.

[14] See also Mueller, 1973:146–47.

less about economics. The young, middle, and old cohorts showed little difference, but the new cohort (born after 1939) has been less troubled by the economy and social control and more disturbed about Vietnam. These preferences seem to be the understandable inclinations of a cohort that emerged during post-World War II affluence, served as a prime target of social control efforts, and participated intimately in Vietnam.

The South, as always, tended to stand out from other regions. It showed a greater concern over civil rights (during the early stage of the civil rights movement) and social control, and was less troubled by foreign affairs/Vietnam. Community type in general played no important role in ordering problem priorities. More education tended to be associated with greater concern about foreign affairs during the 1950s, but neither Vietnam nor foreign affairs was related to education later on. The better educated were less worried about economics and more interested in miscellaneous problems. There were no notable differences among income groups. Protestants were less concerned about foreign affairs/Vietnam and more troubled about civil rights and social control (since Catholics and Jews tend to be whites living outside the South). On party identification, Independents did not differ significantly from either Republicans or Democrats but the two major parties did differ on some problems, showing party-in-power effects on foreign affairs and economics.

In brief, while most intergroup differences were slight and many were variable across surveys, there were a number of significant, nontrivial, and somewhat stable differences among subgroups in their judgment of America's most important problem. Most of these differences could be plausibly accounted for by the association of the problem with the social position and life experiences of the various sociodemographic groups. What is surprising is that more equally plausible differences did not emerge (e.g., the poor showing of income).

Finally, there is some evidence of a homogenization of concerns over time. Looking at differences that are comparable over both time periods[15] we see that in 1948–1961, .729 were insignificant, .083 constant, and .183 nonconstant; and in 1963–1971, .823 were insignificant, .063 constant, and .115 nonconstant. The magnitude of the significant differences also decreased from 4.4 in the earlier period to 2.2 in the later period. This decline may simply result from the differing mixture of problems over the two periods. Perhaps the problems that predominated in the earlier period were related to more

[15] Comparisons involving Vietnam, the new cohort, and income were all eliminated since they occur only in the second period.

sociodemographic attributes than were those problems that appeared in the later period. Alternatively, the increase in homogenization may result from the centralization of information about problems. During these 30 years, fairly decentralized news media based on local newspapers and radio stations were in large part replaced by three New York-based news programs. If diverse groups are increasingly receiving a more homogeneous presentation and analysis of problems, the result may well be the erosion of intergroup differences. And beyond the possible immediate effect of news centralization, more general forces of homogenization may be at work.[16]

To summarize, the MIP question documents not only the shifting concerns of post-World War II American society, but also the general ebb and flow of recent American history. There have been dramatic marginal shifts during the three decades since the close of World War II. Changes include both sudden leaps and plunges (e.g., the rise of civil rights) and long-term trends (e.g., the decline of foreign affairs since 1966). Whether short or long term, these fluctuations appear to be strongly associated with historical events. The MIP question also shows how major social groups perceived events. It indicates that on the whole the group differences tended to be small and trivial, but in certain combinations of circumstances (e.g., blacks and civil rights) notable differences appeared. The analysis of MIP differences among groups also revealed that these differences are not fixed, but vary considerably from period to period as circumstances have changed. As with the marginals themselves, intergroup differences were strongly influenced by the flow and intensity of events, reminding us that social profiles and associations are frequently history-bound conditionals rather than timeless universals.

Appendix: Question Wordings

	Question Wording	*Surveys*
A.	What do you think will be the most important problem during the next year?	AIPO354, 357
B.	In your opinion, what is the most important problem the United States government must solve in the next year?	AIPO387, 449

[16] See on the antimassification school Glenn, 1966; Glenn, 1967; Glenn and Simmons, 1967; Reed, 1972. Those finding homogenization include McKinney and Bourque, 1971; Bell, 1961; and Mayo, 1964.

C. What do you think is the most important problem facing this country today?	AIPO 401, 404, 415, 420, 435, 443, 494, 528, 570, 571, 572, 573, 583, 588, 590, 593, 596, 601, 603, 604, 605, 606, 610, 612, 616, 618, 624, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 641, 644, 648, 653, 657, 660, 662, 663, 664, 669, 677, 688, 689, 694, 695, 696, 697, 698, 699, 706, 708, 711, 714, 715, 717, 719, 720, 728, 733, 735, 740, 749, 753, 756, 761, 764, 765, 766, 767, 769, 770, 781, 797, 807, 811, 814, 815, 824, 831, 836, 840, 844, 853, 855, 858, 859, 862, 864, 870, 871, 877, 886, 906, 913, 915, 916, 924, 932, 938, 943, 950, 960, 961
D. What do you think is the most important problem before the American people today?	AIPO447
E. What do you think is the most important problem facing the entire country today?	AIPO454, 480
F. What do you regard as the biggest issue or problem facing the U.S. government today?	AIPO530
G. What do you regard as the biggest issue or problem, facing the government in Washington today?	AIPO548, 555
H. Turning to the next topic . . . what bothers or angers you the most about America today?	AIPO839
I. Of the many problems facing this country, which one gives you the greatest worry or concern at this time?	AIPO665
J. In your opinion, what is the most important problem the government must solve in the next few months?	AIPO366
K. What do you think will be the most important problem facing this country during the next six months?	AIPO374

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The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence

KENT D. VAN LIERE AND RILEY E. DUNLAP

IN THE past decade social scientists have shown a great deal of interest in public attitudes toward environmental problems and issues, as reflected by the large number of studies of public concern with environmental quality (for a recent bibliography of such studies see Dunlap and Van Liere, 1978). Although several researchers have attempted to document changing levels of "environmental concern" among the public (Buttel and Flinn, 1974; Grossman and Potter, 1977b), the central issue addressed by researchers increasingly has been to determine the social bases of concern for environmental quality. Whether for theoretical reasons (Hornback, 1974) or because of potential policy implications (Dillman and Christenson, 1972), de-

Abstract This paper reports an evaluation of existing knowledge regarding the social bases of public concern with environmental quality. First, five popular hypotheses asserting relationships between environmental concern and eight demographic and social variables are reviewed, with particular attention paid to the theoretical explanations offered in support of each hypothesized relationship. Second, the results of 21 relevant studies are evaluated to determine the degree to which the empirical evidence supports the hypothesized relationships. Third, implications of the results of the review for future research are discussed.

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termining what types of people are most concerned about the environment has been a dominant theme.

Given the large number of studies (see Dunlap and Van Liere, 1978), one might expect that considerable progress has been made in identifying and explaining variation in public concern with environmental problems. Instead, one finds considerable dissensus with respect both to the evidence itself and its interpretation. The purpose of this paper is to take stock of existing knowledge and to determine more precisely what is known about the correlates of environmental concern.

Because of the reliance on sample survey techniques, the largest body of data on correlates of environmental concern exists for the social and demographic variables that are routinely included in such surveys—age, sex, income, education, occupational prestige, residence, political party, and political ideology. Thus, our review concentrates on the associations between these variables and various indicators of environmental concern.[1] We confine our attention to bivariate associations since most studies have not employed multivariate analyses.

The review is divided into two sections. First, we examine the common hypotheses and theoretical explanations relating environmental concern to social and demographic variables.[2] Second, we summarize the existing evidence to determine the degree to which it provides support for the hypothesized relationships.[3]

Review of Hypotheses and Explanations

In reviewing the literature, we examine five general hypotheses—the age, social class, residence, political, and sex hypotheses—as well as the theoretical explanation(s) offered for each of them.

The Age Hypothesis: Younger people tend to be more concerned about environmental quality than older people. Though initially there were suggestions that age is positively correlated with environmental concern (Harry et al., 1969), most studies of the general public have

[1] We will not include a few standard demographic variables, such as race and religion, because very few studies have examined relationships between them and indicators of environmental concern.

[2] We are admittedly using "theoretical" in a rather loose sense, to refer to the explanation provided by an author as to why a hypothesized relationship should be found to exist. However, such conceptions of theories are common in the social sciences—see, e.g., Labovitz and Hagedorn, 1976:40–42.

[3] As will be seen below, the existing literature rarely allows one to determine which of two or more competing theoretical explanations for a given hypothesis is most plausible—even when the hypothesis itself is confirmed.

not supported this contention. Rather, the predominant finding has been that age is negatively correlated with environmental concern.

One explanation for the age hypothesis rests on what Malkis and Grasmick (1977) call age-group differences, or differences associated with the aging process which presumably can be outgrown. In particular, it has been argued that young people are less integrated into the American economic system or, more generally, the dominant social order (Malkis and Grasmick, 1977; Hornback, 1974). Since solutions to environmental problems often are viewed as threatening the existing social order, possibly requiring substantial changes in traditional values, habitual behaviors, and existing institutions (Hornback, 1974), it is logical to expect youth to support environmental reform and accept pro-environmental ideologies more readily than their elders.

Malkis and Grasmick also discuss cohort differences as an explanation for the negative age environmental concern relationship. In explaining cohort differences they draw on Mannheim's (1952) theory of generations, which suggests that important historical events occurring at the crucial adolescent and young adulthood phase of the life cycle can permanently affect a cohort throughout its existence. Malkis and Grasmick (1977:43–45) suggest that exposure of the current 18- to 30-year-olds to the "youth movement" of the sixties and seventies may help account for their greater concern about environmental problems. Specifically, they argue that the involvement of youth with environmental issues is a logical outgrowth of their high level of mobilization over the receding issues of civil rights and Vietnam. In addition, although Malkis and Grasmick do not mention it, Mannheim's theory would lead us to expect that continued exposure to alarming information on environmental deterioration (via the news media, environmental education courses, etc.) has left an indelible imprint on many young people during the past decade, forming an ecology-minded generation whose commitment to environmental reform should not disappear as they move into adulthood.

The Social Class Hypothesis: Environmental concern is positively associated with social class as indicated by education, income, and occupational prestige. One explanation for this hypothesis is that the upper and middle classes have solved their basic material needs and thus are free to focus on the more aesthetic aspects of human existence. This hypothesis rests on Maslow's (1970) hierarchy of needs theory, and assumes that concern for environmental quality is something of a luxury which can be indulged only after more basic material needs (adequate food, shelter, and economic security) are met (Dunlap et al., 1975).

Morrison et al. (1972) present a related argument, using the concept of relative deprivation. They argue that members of the lower class typically have experienced only poor physical conditions, and thus are less aware that they live, work, and play in polluted, overcrowded conditions. Conversely, the middle and upper classes are more likely to have experienced pleasant residential, work, and recreational environments, and consequently are more concerned about the deterioration of the physical environment. Thus, Morrison et al. (1972) suggest that it is "relative" deprivation, not "absolute" deprivation, which leads to environmental concern.

Finally, it is suggested that the middle and upper classes are the most politically and socially active segments of American society, and that their concern over environmental problems is only an extension of a generalized concern with social problems (Martinson and Wilkening, 1975; Althoff and Greig, 1977). As a result, it is not surprising that these advantaged classes are disproportionately concerned about environmental problems.

It has been argued that these positive forms of the social class hypothesis draw too heavily on studies of environmental organization memberships, and that these findings may not generalize to the mass public (Buttel and Flinn, 1978b; Grossman and Potter, 1977a). Buttel and Flinn (1978b) for example, argue that because the lower and working classes typically reside in highly polluted areas, work in poor physical environments, and have access to poor recreational facilities, they should be expected to express concern about poor environmental conditions. Thus, contrary to most writers, Buttel and Flinn hypothesize that the lower and working classes are as much or more concerned about environmental problems than the middle and upper classes.

The Residence Hypothesis: Urban residents are more likely to be environmentally concerned than rural residents. Tremblay and Dunlap (1978) discuss two possible explanations for this relationship: First, urban residents should be more concerned with environmental problems because they generally are exposed to higher levels of pollution and other types of environmental deterioration; this explanation assumes that place of residence is an indicator of objective physical conditions, and that exposure to poor environmental conditions leads to environmental concern. Second, rural residents are more likely than urbanites to have a utilitarian orientation toward the natural environment because of their involvement with "extractive" occupations such as farming, logging, and mining. Thus, heavy dependence on use of the natural environment by rural residents is assumed to result in less concern with environmental protection than

that shown by urban residents (also see Harry et al., 1969). This explanation rests partially on occupational differences between rural and urban residents, with residence as a proxy variable for extractive—nonextractive occupations. Tremblay and Dunlap also argue that even rural residents not engaged in nature-extractive occupations can be expected to hold utilitarian attitudes toward the environment because of a shared rural culture.

Murdock and Schriner (1977) suggest a third explanation: Because small towns need to maintain economic growth to survive, they are assumed to value growth over protection of environmental quality. Thus, the growth orientation of rural and small-town residents, not the utilitarian orientation of farmers and other rural residents, presumably accounts for the positive relationship between environmental concern and size of place of residence.

The Political Hypothesis: Democrats and liberals are more concerned about environmental quality than are their Republican and conservative counterparts. The rapid rise of widespread public support for environmental reform in the late sixties and early seventies led to arguments that environmental concern transcended political cleavages (Ogden 1971). Recent studies, however, have questioned the consensus quality of environmental politics, arguing that support for environmental reform varies among political groupings (Buttel and Flinn, 1976; 1978a; Dunlap, 1975; Springer and Constantini, 1974).

Dunlap (1975:432) notes three reasons for expecting a split along traditional ideological and partisan lines: (1) environmental reforms generally are opposed by business and industry because of the costs involved, (2) environmental reforms entail an extension of government activities and regulations, and (3) environmental reforms often require innovative action. Noting traditional Republican-conservative favoritism toward business, opposition to big government, and suspicion of drastic change, Dunlap hypothesizes that there will be significant differences in environmental concern between Democrats and Republicans as well as between liberals and conservatives, in the direction noted above.

Buttel and Flinn (1976), in examining these relationships further, argue that political ideology is the key variable because the two-party system in this country tends to dilute partisan differences. They therefore suggest that political liberals tend to be more supportive of environmental protection than conservatives, as did Dunlap (1975), but that Democrats are no more likely to be environmentally concerned than Republicans.

The Sex Hypothesis: Relatively few researchers have paid attention to sex in studies of environmental concern. McEvoy (1972) argues

that because males are more likely to be politically active, more involved with community issues, and have higher levels of education than females, they will be more concerned over environmental problems. Conversely, Passino and Lounsbury (1976) argue that males are more likely than females to be concerned about jobs and economic growth, and thus are less concerned than females with protecting environmental quality. Consequently, there is no agreement on the direction of the relationship between sex and environmental concern.

Review of the Evidence

We now turn to a review of the data that bear on the hypotheses discussed above. A number of criteria were employed in selecting studies to be included in Table 1. First, we limited our attention to

Table 1. A Summary of the Bivariate Relationships between Indicators of Environmental Concern and Age, Education, Income, Occupational Prestige, Residence, Sex, Political Party, and Political Ideology Reported in Existing Studies

Study	*Age*	*Educ.*	*Inc.*	*Occ.*	*Res.*[a]	*Sex*[b]	*Party*[c]	*Ideol.*[d]
Studies Reporting Pearson's *r*								
Arbuthnot & Lingg, 1975								
Recycling index	−.05	.29	—	—	—	−.11	—	—
Env. future orientation	−.18	.45	—	—	—	−.07	—	—
Buttel & Flinn, 1976								
Awareness of env. probs.	−.33	.20	—	—	.28	—	.06	.10
Support for env. reforms	−.30	.23	—	—	.14	—	.08	.23
Buttel & Johnson, 1977								
Ameliorative dimension	—	.08	—	—	—	—	.14	.35 .34
Redirective dimension	—	.26	—	—	—	—	−.01	.25 −.03
Grossman & Potter, 1977b								
Env. concern (1973)	−.24	.17	.09	.05	−.09	.01	.10	NA[e]
Env. concern (1974)	−.26	.17	.06	.07	.17	−.01	.08	.15
Env. concern (1975)	−.21	.09	.04	.02	.11	.09	.09	.15
Env. concern (1976)	−.23	.16	.14	.04	.12	.02	.03	.12
Koenig, 1975								
Env. concern index	NR[f]	NR[f]	NR[f]	NR[f]	—	—	.15	—
Martinson & Wilkening, 1975								
Awareness of env. probs.	−.41	.33	—	—	—	—	—	—
Malkis & Grasmick, 1977								
Env. ideol.-production	−.32	.16	−.21	.13	—	—	—	—
Env. ideol.-consumption	−.26	.07	−.17	.03	—	—	—	—
Springer & Constantini, 1974								
Env. concern	−.17	.12	.05	—	.08	—	NR[f]	.01[g]
Tognacci et al., 1972								
Import. of pure env.	−.09	.06	—	—	—	—	.1[h]	.1[h]
Attainment of pure env.	−.27	.17	—	—	—	—	.01[h]	.05[h]
Conservation scale	−.34	.37	—	—	—	—	.001[h]	.001[h]
Pollution scale	−.41	.35	—	—	—	—	.001[h]	.001[h]
Power plant scale	−.33	.28	—	—	—	—	.001[h]	.001[h]
Overpopulation scale	−.38	.30	—	—	—	—	.001[h]	.001[h]
Pop. control scale	−.44	.24	—	—	—	—	.01[h]	.001[h]

Table 1. (Continued)

Study	*Age*	*Educ.*	*Inc.*	*Occ.*	*Res.*[a]	*Sex*[b]	*Party*[c]	*Ideol.*[d]
Van Liere & Dunlap, 1978								
Population scale	−.04	.11	.02	−.04	.10	−.02	−.04	.12
Pollution scale	−.25	.18	−.03	.12	.04	.15	.03	.19
Resource cons. scale	−.06	.15	−.04	.00	.11	.08	.08	.20
NEP scale	−.08	.11	−.07	−.02	.06	.07	.00	.21
Env. funding scale	−.09	.17	−.06	.09	.10	.14	.00	.16
Env. regulations scale	−.13	.10	−.12	−.02	.06	.08	.07	.23
Personal beh. scale	.12	.01	−.16	.07	.02	.21	.04	.04
Public beh. scale	.04	.16	.07	.12	−.04	.07	−.06	.03
Weigel, 1977								
Env. behavior index	−.24	.42	—	.32	—	—	—	.34
Studies Reporting *gama*								
Buttel & Flinn, 1974								
Env. as a prob. (1968)	—	.51	.22	—	−.12	—	—	—
Env. as a prob. (1969)	—	.28	.32	—	−.08	—	—	—
Env. as a prob. (1970)	—	.22	.09	—	.03	—	.02	—
Constantini & Hanf, 1972								
Env. concern scale	NR[f]	.20	−.13	—	—	—	—	.22 .36
Dillman & Christenson, 1972								
Pollution value index	.21	.20	.12	.17	.05	—	.001[g]	.13
Harris, 1970a								
Air poll. in state	−.08	.11	—	—	.19	—	—	—
Air poll. in community	−.19	.26	—	—	.57	—	—	—
Water poll. in state	NA[e]	.05	—	—	.07	—	—	—
Water poll. in community	NA[e]	.22	—	—	.41	—	—	—
Harris, 1970b								
Air poll. in state	−.15	.20	—	—	.15	—	—	—
Air poll. in community	−.20	.19	—	—	.35	—	—	—
Water poll. in state	−.12	.15	—	—	−.06	—	—	—
Water poll. in community	−.23	.25	—	—	.06	—	—	—
Hornback, 1974								
Env. most impt. prob. (1970)	−.19	—	—	—	.04	.04	−.06	NA[e]
Env. most impt. prob. (1972)	−.14	—	—	—	NA[e]	.03	−.12	.11
McEvoy, 1972								
Env. concern	−.06	.30	.22	—	.06	−.16	—	—
Murch, 1974								
Env. concern	—	.15	—	.01	—	.07	—	—
Murdock & Schriner, 1977								
Support env. protection	−.26	.24	.04	.15	—	—	—	—
Nat'l Wildlife Fed., 1972								
Env. concern	−.08	.27	.15	—	.12	−.08	—	—

[a] A positive coefficient means that urban residents are more "environmentally concerned" than rural residents.

[b] A positive coefficient means that women are more "environmentally concerned" than men.

[c] A positive coefficient means that Democrats are more "environmentally concerned" than Republicans.

[d] A positive coefficient means that liberals are more "environmentally concerned" than conservatives. Where two coefficients are reported, the first refers to "Anti-Lassiez Faire Liberalism" and the second refers to "Welfare State Liberalism."

[e] NA means that data were not available for that year.

[f] NR means that the actual coefficient was not given, but the author reported "no relationship."

[g] Chi-square analysis was used and the chi-square statistic was reported as significant at the given level.

[h] A difference-of-means test was used and the difference of means was reported as significant at the given level.

studies attempting to measure respondents' level of *concern* with environmental problems, environmental quality, etc. Such concern is tapped in a variety of ways in the studies in Table 1, including perceiving environmental problems as serious, supporting efforts by government to protect environmental quality, engaging in behaviors aimed at improving environmental quality, etc. Though interesting in their own right, studies that measure such variables as trust in government to solve environmental problems (Althoff and Greig, 1977) or perception of the causes of environmental degradation (Bowman, 1977) are not included, because these variables do not provide an unambiguous indicator of respondents' degree of concern with environmental quality. However, the studies listed in Table 1 provide a wide range of indicators of environmental concern.[4]

Second, because we are interested in the distribution of environmental concern among the general public, we included studies which use sample surveys of heterogeneous populations—typically probability samples of the general public within a community, a state, or the entire nation.[5] We did not include studies of relatively homogeneous populations such as college students, since these samples provide insufficient variation on such variables as age and education—making it meaningless to attempt to correlate these variables with environmental concern.

Third, we focused on studies which report bivariate measures of association.[6] The most commonly reported measures of association between demographic characteristics and environmental concern are gamma and Pearson's r, and studies employing these measures comprise the bulk of entries in Table 1. To examine the broadest range of studies possible, we included a number of studies which do not report measures of association, but report the necessary frequency distribu-

[4] We did not include studies which examine energy attitudes, because in many studies such attitudes do not appear to reflect a clear pro- to anti-environmental dimension (focusing instead on causes of the energy crisis, and so forth). However, in their review of the few studies which examined attitudes and/or behavior in support of energy *conservation*, Olsen and Goodnight (1977:11–16) report empirical generalizations which are similar to those which emerge from our Table 1 (except that income is found to be a good predictor of energy conservation, but not of environmental concern).

[5] Since the vast majority of existing studies were conducted in the United States, we confine our search for empirical generalizations to U.S. data. After more foreign studies become available it will be appropriate to search for cross-national generalizations, but there are not enough non-U.S. studies to warrant this at present.

[6] We do not report significance levels for the measures of association in Table 1 because: (1) not all studies report significance test, and (2) studies which report significance tests vary considerably in sample size. Since significance levels are affected by sample size, to avoid misleading comparisons they are not reported.

tions to allow us to compute gammas (Harris, 1970a, 1970b). Finally, we included studies which report r's or gammas for some variables, but report chi-square or difference-of-means tests for other variables. To aid in comparing studies, we separated those which mainly report r's from those reporting gammas, and added footnotes to identify instances of the use of chi-square or difference-of-means tests.[7] With the above criteria in mind, we turn our attention to Table 1.

Evidence for the Age Hypothesis: The age hypothesis posits a negative association between age and environmental concern. There is considerable support for it in Table 1 as most of the coefficients in the first column are negative. Further, the results show that the size of the coefficients for age are relatively strong when compared to other coefficients in the table. For the most part, the coefficients range from $-.2$ to $-.4$, which suggests a moderate negative relationship between age and environmental concern. Also, the two longitudinal studies which report data for age suggest that it has been a consistent correlate of environmental concern over the past several years (Grossman and Potter, 1977b; Hornback, 1974).

While the bulk of the evidence clearly supports the age hypothesis, a few findings fail to do so. Both Koenig (1975) and Constantini and Hanf (1972) report no relationship; McEvoy (1972) reports only a negligible (i.e., less than .1) negative relationship; while Arbuthnot and Lingg (1975), Tognacci et al. (1972), Van Liere and Dunlap (1978), and Harris (1970a) all report similarly slight relationships between age and at least one of their measures of environmental concern. On the whole, however, the preponderance of evidence must be viewed as supportive of the age hypothesis.

Evidence for the Social Class Hypothesis: The associations between educational level and environmental concern (column 2, Table 1) support the hypothesis that education is positively associated with environmental concern; they are all positive and most are moderately strong (generally ranging from .15 to 40). Further, in the longitudinal studies the coefficients are fairly consistent over time (Buttel and Flinn, 1974; Grossman and Potter, 1977b). As was the case with age, however, some studies report only a negligible association for at least one measure of environmental concern (Buttel and Johnson, 1977; Grossman and Potter, 1977b; Malkis and Grasmick, 1977; Tognacci et al., 1972; Van Liere and Dunlap, 1978; Harris, 1970a), while Koenig (1975) reports no relationship.

[7] Unfortunately, we could not include studies reporting percentage differences but insufficient data to allow us to compute gammas (Althoff and Greig, 1977; Mitchell, 1979), or studies employing multivariate analyses but not reporting bivariate measures of association (Sharma et al., 1975).

The associations between income and environmental concern (column 3) are quite ambiguous and fail to support the hypothesized positive association. A few studies report a moderately positive association, supporting the hypothesis that higher income groups are more environmentally concerned than lower income groups (Buttel and Flinn, 1974; McEvoy, 1972). However, a number of studies report a negligible association (Grossman and Potter, 1977b; Koenig, 1975; Springer and Constantini, 1974; Murdock and Schriner, 1977), and others report a negative relationship (Malkis and Grasmick, 1977; Van Liere and Dunlap, 1978; Constantini and Hanf, 1972). Further, the longitudinal studies suggest that the relationship between income and environmental concern may be changing over time (Buttel and Flinn, 1974; Grossman and Potter, 1977b).

Finally, while a majority of the associations between occupational prestige and environmental concern (Table 1, column 4) are positive, most are so slight that it is difficult to conclude that the hypothesized relationship is supported. The results of Grossman and Potter (1977b), Koenig (1975), Murch (1974), and for one of Malkis and Grasmick's (1977) measures suggest little association between occupational prestige and environmental concern. On the other hand, Weigel (1977), Dillman and Christenson (1972), and Murdock and Schriner (1977) report moderate associations between prestige and environmental concern. Van Liere and Dunlap (1978) report the relationship to be positive for some measures of environmental concern and negative for others.

In general, evidence relating to the broad social class hypothesis—i.e., considering the three dimensions of education, income, and occupational prestige—provides very weak support for the assertion that social class is positively associated with environmental concern. What support there is rests primarily on the moderately strong relationship between environmental concern and education. The evidence for occupational prestige provides very weak support at best, while the overall evidence for income is highly ambiguous. Thus, our review points to the need for more careful conceptualization and analyses of the effects of education, income, and occupational prestige on environmental concern. By no means should they be used as equivalent indicators of social class when examining the social bases of environmental concern.

Evidence for the Residence Hypothesis. The associations in column 5 generally support the hypothesis that urban residence is positively related to environmental concern. However, there are a number of contradictions to this pattern, as Grossman and Potter (1977b), Van Liere and Dunlap (1978), Buttel and Flinn (1974), and Harris (1970b)

all report at least one negative relationship. More important, the coefficients vary considerably in magnitude, both within and across studies, suggesting that the relationship between residence and environmental concern may depend on the indicator of environmental concern being examined. For example, Buttel and Flinn (1976) report a fairly strong relationship between awareness of environmental problems and residence, but a much weaker relationship between support for environmental reform and residence. More generally, Tremblay and Dunlap (1978), using the Harris (1970a) data, suggest that residence is most strongly associated with environmental concern when *local* environmental conditions are the focus of attention.

Evidence for the Sex Hypothesis: Although there are conflicting hypotheses and limited data relating sex to environmental concern, we included sex in our review to examine the degree to which a sex–environmental concern relationship might exist, even though ignored by most researchers. As expected, the evidence regarding sex and environmental concern is quite meager, and the results listed in column 6 are inconclusive. Van Liere and Dunlap (1978) report modest (greater than .1) positive associations, indicating that females are more environmentally concerned than males, for a few of their measures of environmental concern, while Arbuthnot and Lingg (1975) and McEvoy (1972) report modest negative associations. The remaining associations are less than .1, and the overall pattern suggests that sex is not substantially associated with environmental concern. This conclusion should be viewed as tentative, however, as it is based on limited evidence.

Evidence for the Political Hypothesis: Looking first at partisan identification (column 7), we see that there is some support for the hypothesis that Democrats are more environmentally concerned than Republicans. A few studies report moderate associations between Democratic party affiliation and environmental concern (Buttel and Johnson, 1977; Grossman and Potter, 1977b; Koenig, 1975), and both Tognacci et al. (1972) and Dillman and Christenson (1972) report Democrats to be significantly more pro-environmental than Republicans. However, the coefficients are not very large, and imply a weak association at best. In general, the evidence appears to support Buttel and Flinn's (1976) assertion that party is not a crucial variable in explaining variation in environmental concern among the general public.[8]

[8] However, considerable evidence suggests that among political elites (e.g., legislators) and the college-educated public, Democrats are significantly more environmentally concerned than are Republicans (Buttel and Flinn, 1978a; Dunlap and Allen, 1976).

In contrast, there is substantial support for the hypothesis that liberals are more environmentally concerned than conservatives (column 8). Typically the measure of ideology used is simply self-identification on a liberal-conservative continuum, but a few studies have measured ideology (including different dimensions) via attitude scales (usually "welfare-state liberalism" and "anti-laissez-faire liberalism"—Buttel and Johnson, 1977; Weigel, 1977; Constantini and Hanf, 1972). Regardless of the measure used, the coefficients are virtually always in the expected direction (Buttel and Johnson, 1977, report the only exceptions) and are often of moderate magnitude.

Summary: The review of evidence on the social correlates of environmental concern suggests that only three of the hypothesized relationships should be considered empirical generalizations. Age, education, and political ideology are consistently (albeit moderately) associated with environmental concern, and thus we have confidence in concluding that younger, well-educated, and politically liberal persons tend to be more concerned about environmental quality than their older, less educated, and politically conservative counterparts.

The evidence is less conclusive for residence, political party identification, and occupational prestige, since they are correlated more weakly and/or less consistently with environmental concern. In the first two cases, however, it has been suggested that qualified versions of the relationships can be regarded as empirical generalizations. Thus, Tremblay and Dunlap (1978) review evidence which consistently supports a positive association between urban residence and concern with environmental problems at the *local* level, while evidence summarized by Buttel and Flinn (1978a) and Dunlap and Allen (1976) suggests that among political elites and the college-educated segment of the public, Democrats are significantly more environmentally concerned than are Republicans.

In the case of occupation the qualifications have been more substantial, as a variety of nonvertical cleavages have been suggested as more important than prestige per se: business occupations (Buttel and Johnson, 1977; Costantini and Hanf, 1972), technologically dependent occupations (Malkis and Grasmick, 1977) and nature-exploitative occupations (Harry, 1971) have all been hypothesized to be negatively associated with environmental concern. Such relationships have received only limited attention in the empirical literature, however, and the evidence is inconclusive. In view of the weak support for the occupational prestige–environmental concern relationship, we believe these other dimensions of occupational differentiation deserve further empirical investigation as possible correlates of environmental concern.

Finally, the evidence regarding income and sex suggests that they are not systematically correlated with environmental concern, although relatively few studies have examined the sex–environmental concern relationship and we therefore regard the evidence on it as tentative.

Concluding Remarks

The foregoing review indicates that researchers have had limited success in explaining the social bases of environmental concern. This conclusion is suggested by the fact that the coefficients in Table 1 are generally quite low (even in the cases of age, education, and political ideology they reach only modest magnitudes). It is bolstered by the results of the few multivariate analyses which have examined the explanatory power of several sociodemographic variables in combination. Although they usually include nearly all the variables listed in Table 1, such studies typically explain only 10 to 15 percent of the variance in environmental concern (e.g., Buttel and Flinn, 1978a; 1978b; Grossman and Potter, 1977a; 1977b; Malkis and Grasmick, 1977; Sharma et al., 1975).[9]

The limited utility of demographic variables in explaining variation in environmental concern points to the widespread distribution of such concern in our society. Although somewhat stronger among the young, well-educated, and liberal segments of society, environmental concern is by no means restricted to persons with such characteristics (e.g., Dillman and Christenson, 1972; McEvoy, 1972; Mitchell, 1979), as indicated by the modest associations reported for these variables in Table 1.

In view of this, we offer two suggestions for future research which we believe might improve researchers' ability to explain the social bases of concern about environmental quality, and also make their research more relevant to environmental policy making. First, given the widespread distribution of generalized environmental concern, we believe it would be profitable to focus attention on specific environmental issues and policies. On the one hand, researchers should reconsider the practice of lumping such diverse issues as air and water pollution, population control, and wildlife protection together into global measures of environmental concern (as do many studies

[9] In addition to examining the *cumulative* effects of several variables on environmental concern, multivariate analyses can also shed light on their *relative* effects. Additional analyses sorting out the relative effects of such variables as age, education, and residence would be helpful in establishing more solidly the empirical generalizations suggested by the bivariate results.

reviewed in this paper). It is unclear whether persons concerned about one of these issues will be equally concerned about the others and at least some of the variation in the associations in Table 1 may stem from variation in the dimensions of environmental concern being tapped by the diverse measures (for suggestive evidence in this regard see Buttel and Johnson, 1977; Van Liere and Dunlap, 1978). On the other hand, researchers should pay more attention to the trade-offs involved in improving and protecting environmental quality. Most environmental policies entail a variety of costs, including higher prices or taxes and restrictions on individual or corporate behaviors, and researchers could examine public support for the policies in view of these costs (see, for example, Mitchell, 1979).

Second, the trade-offs between environmental quality and other widely valued ends such as low taxes, economic growth, free enterprise, and private property rights suggest the fruitfulness of examining differential commitments to the latter as determinants of support for environmental protection. The importance of these cognitive (as opposed to demographic) variables is suggested by a recent study which found support for private property rights, laissez-faire government, and economic growth to be strongly correlated with environmental concern, and to explain far more variation in the latter than do the demographic variables reviewed in this paper (Dunlap and Van Liere, 1980).[10]

In sum, we are arguing that in order to achieve a better understanding of the social bases of environmental concern researchers should conceptualize such concern more precisely than has generally been done in the past, and also pay at least as much attention to the cognitive as to the demographic determinants of support for environmental protection.[11]

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[10] It is also suggested by the fact that our review showed political ideology, primarily a cognitive characteristic, to be consistently associated with environmental concern. Although partisan identification also involves cognitive processes, it is somewhat more likely to be "inherited" from parents than is the case with ideology (e.g., Niemi et al., 1978).

[11] We should stress that cognitive variables ought to be examined *in addition to*, rather than *in lieu of*, demographic variables, for it is likely that support for economic growth, laissez-faire government, private property rights, etc. will be related to age, education, income, residence, etc. Thus, the most powerful analyses of the social bases of environmental concern will likely be those which consider both its demographic and cognitive determinants.

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Response Styles in Telephone and Household Interviewing: A Field Experiment

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ALTHOUGH telephone surveys are an attractive alternative to household interviews, it is important to determine whether the data collected by the two methods are comparable. Initial results have been very promising—recent comparisons of the two methods do not reveal large systematic differences (Bushery et al., 1978; Cannell and Fowler, 1965; Colombotos, 1969; Groves, 1977; Hochstim, 1967; Klecka and Tuchfarber, 1978; Locander et al., 1976; Reeder, 1976, 1977; Rogers, 1976; Schmiedeskamp, 1962; Siemiatycki, 1979; Wiseman, 1972).

Abstract Two independent groups from the Los Angeles metropolitan area were sampled and interviewed—one was sampled by a form of random digit dialing and interviewed by telephone; the other was sampled on an area probability basis and interviewed face-to-face in households. Few sociodemographic differences were found between the telephone and household samples, suggesting that the two methods sampled essentially the same population. There were differences in the quantity and quality of the data obtained, however, and the telephone sample had more missing data for family income, more acquiescence, evasiveness, and extremeness response bias on attitude questions, and more responses to checklists.

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In 1976 the Los Angeles Health Survey (LAHS) research team conducted household (HH) and telephone (TC) surveys at the same time and with essentially the same instrument, attempting to keep the HH and TC interviews as nearly alike as possible. The LAHS is an ongoing annual or biennial survey of health behavior and health attitudes in the Los Angeles metropolitan area. The interviewers had many months and often years of experience conducting household surveys, and some had prior experience with telephone surveys. Like Fleishman and Berk (1979), however, we found that most of our interviewers preferred household surveys.

For the HH samples, the LAHS used the sampling frame developed by the UCLA Survey Research Center for its Los Angeles Metropolitan Area Sample (LAMAS). This frame contains approximately 20,000 computer-readable addresses sampled on an area probability basis. Samples drawn from the frame may be characterized as three-stage cluster samples, with probabilities proportional to size. Each housing unit (HU) in Los Angeles County has an equal chance of being selected (Sumner, 1978).

For the TC sample, there was an attempt at matching the cluster design of the LAMAS frame. With the use of reverse telephone directories, telephone exchanges were sampled from the addresses in the block groups representing the secondary sampling units from the frame; then calls were made to telephone numbers generated by appending four random digits to the obtained exchanges. The exchanges cover much larger areas than the original census tracts, however, and only 20.8 percent of the TC respondents lived in the targeted census tracts.

For both the HH and TC samples, one adult respondent per household was randomly selected by means of the Kish (1965: 400) procedure. Consequently, the unweighted sample statistics are estimates of the population of HUs in Los Angeles. To make inferences about the population of adult persons, it is necessary to weight the sample observations inversely by the number of adults in each HU. In the present study, we found that weighted and unweighted analyses of these data were almost invariably the same, but that there were a few borderline results which were significant in one analysis, but not in the other. We have therefore adopted the conservative practice of interpreting only those results that were robust under weighting, or statistically significant in both the weighted and unweighted analyses.

The initial listings consisted of 2,020 addresses for the HH sample, and 1,114 telephone numbers for the TC sample. For the HH sample, 137 units (6.8 percent) were considered ineligible (vacancy, no dwelling at address, language barrier), and for the TC sample, 401 units

(36.0 percent) were considered ineligible (discontinued, business number, not-in-service, language barrier). For the HH sample, 1,210 of 1,883 (64.3 percent) of the eligible units provided completed interviews, and for the TC sample, 303 of 613 (49.4 percent) eligible units provided completed interviews. To a certain extent, this difference in response rates can be attributed to the higher refusal rates in the telephone survey (29 percent vs. 18 percent), which is a finding consistent with previous research (Groves, 1977; Siemiatycki, 1979). However, as shown below, there is no evidence that these different response rates contributed to demographic or other biases in the two samples.

Results

SOCIODEMOGRAPHIC VARIABLES

The most striking difference between the HH and TC samples is the amount of missing data for income (Table 1). Respondents were asked for total family income on a 15-point scale. For the HH sample, respondents were asked whether their family incomes were over or under $10,000. Depending on the answer, they were given one of two flash cards showing a graduated scale of income categories or intervals (e.g., less than $5,000; $5,000–$6,999; $7,000–$8,999, etc.). Respondents were then asked to identify the category which contained

Table 1. Selected Demographic Variables—Means for Household (HH) and Telephone Comparison (TC) Samples—Unweighted, 1976

	HH Sample N = 1,210		*TC Sample N = 303*		*t for Mean Difference*
	$\bar{X}$	*s*	$\bar{X}$	*s*	
Age	42.8	17.4	44.01	18.1	−1.16
% Male	0.43	0.50	0.37	0.48	1.19
% Married	0.55	0.50	0.50	0.50	1.56
N Adults	1.84	0.75	1.82	0.78	0.41
N Children	0.88	1.37	0.76	1.23	1.39
Income	8.21	3.82	7.61	3.48	2.49*
% Missing	0.12	0.32	0.21	0.41	−4.58***
Mid-education	12.46	3.57	12.25	3.36	0.93
SEI	48.80	22.50	47.83	22.74	0.67
% Anglo	0.67	0.47	0.73	0.44	2.01*[a]
% Hispanic	0.06	0.24	0.08	0.26	−1.27

Significance levels for unweighted analysis:
* $p < .05$.
*** $p < .001$.
[a] Significance criterion was not met for weighted analysis.

their total family incomes. For the TC sample, respondents were also asked whether their incomes were over or under $10,000. However, in the absence of flash cards, the telephone interviewers read the income categories and coded the one containing the respondent's total family income. The income question is one of the most sensitive of the sociodemographic questions, and some respondents either refuse or claim not to know the answer. We found that 12 percent of the HH respondents and 21 percent or nearly twice as many TC respondents did not answer. Similar results were also obtained in a recent Canadian survey reported by Siemiatycki (1979), who reported a missing data rate for income of 14 percent in household interviews, compared to 19 percent in telephone interviews.

In the University of Michigan study, Groves (1977) also reported more missing income data from the telephone survey. He found that the missing data rate declined for subsequent telephone surveys, however, which he attributed to improved interviewing technique. Our own experience has been similar. For example, the missing data rate for income dropped from 21 percent in our 1976 telephone survey to 15 percent in a similar survey conducted in 1977. It remains to be seen whether, as more experience is gained with telephone methods, the missing data rate can be reduced to the 12 percent obtained face-to-face. We have obtained more "don't know" than "refused" responses for income, and we assume that many of these "don't know" responses are indirect refusals from reluctant respondents (Robins, 1963). A rather large proportion of the missing income data for the 1976 telephone survey was in the "don't know" category (14.5 percent), suggesting that respondents were being evasive rather than refusing the information outright.

In view of the large amounts of missing data for income, the obtained mean difference on income is ambiguous. The groups are not significantly different on other indicators of socioeconomic status, such as education and Duncan's socioeconomic index (SEI), so in the absence of confirming evidence of a socioeconomic difference between the samples, we conclude that the obtained income difference is probably spurious or, if real, is rather small in size. Table 1 also shows that the TC sample has a significantly larger proportion of Anglos. This comparison was not significant in a weighted analysis of the same data, however, so we recommend caution in accepting the finding.

There are very few demographic differences beteen the HH and TC samples, confirming the findings of Groves (1977) and Klecka and Tuchfarber (1978). With over 1,500 respondents, we have adequate power to detect quite small differences between the samples, and our

results suggest that—apart from the greater amount of missing income data in the TC sample—the two samples are essentially the same on all sociodemographic variables. This lack of demographic differences is a fortunate result, since telephone interviewing may soon be the dominant method for obtaining most kinds of survey data.

ATTITUDE VARIABLES

The seven attitude variables in Table 2 are content scales for measuring aspects of respondents' health beliefs (Berkanovic, 1980) (Kirscht, et al., 1976) and they are composed of 4-point Likert items (strongly agree, agree, disagree, strongly disagree). There were 32 items in all, administered at three points in the questionnaire, and then scored to form the seven attitude scales, briefly described below.

Susceptibility—6 items expressing personal susceptibility to illness, and lack of belief in the efficacy of preventive health behavior.

Acceptability—6 items expressing general satisfaction with the quality of medical care, and with physician courtesy and concern.

Accessibility—6 items expressing satisfaction with the availability of services and lack of need to make "special arrangements" for medical care.

Cost Concern—2 items expressing concern about the cost of medical services.

Seriousness—5 items expressing how seriously illnesses are viewed.

Efficacy of Care—3 items expressing belief in the efficacy of medical care.

Motivation—4 items expressing the value placed on health.

As in the case of the income question, administration of the attitude items was supplemented by a hand card for the HH sample, with the four response categories displayed for the respondent's use. The instruction read:

> I'm going to read some statements related to health and illness. I'd like you to tell me the extent to which you agree or disagree with each statement. People have many different opinions about health—so there are no right or wrong answers. We are simply interested in *your* opinions. (HAND CARD). Please tell me if you *strongly agree, agree, disagree,* or *strongly disagree* with the following statements.

For the TC sample, the instructions were identical, but hand cards could not be used, and the interviewer was required to repeat the response categories as the items were read.

An attempt was made to balance the scales for keying in the

Table 2. Selected Attitude Variables—Means and Standard Deviations for Household (HH) and Telephone Comparison (TC) Samples—Unweighted, 1976

	Items in Scale		*HH Sample N = 1,210*		*TC Sample N = 303*		*t for*	*X^2 for*
	Agree Keyed	*Disagree Keyed*	$\overline{X}$	*s*	$\overline{X}$	*s*	*Mean Diff.*	*SD Diff.*
Attitude variables								
Susceptibility	3	3	−1.79	2.34	−2.08	2.74	1.86	12.82***
Acceptability	3	3	0.92	2.76	0.64	3.58	1.48	36.14***
Accessibility	3	3	1.97	2.34	2.31	2.84	−2.16*[a]	19.56***
Cost concern	1	1	−0.45	1.42	−0.28	1.67	−1.79	13.56***
Seriousness	2	3	2.72	1.91	2.61	2.07	0.88	3.23
Efficacy of care	1	2	3.39	1.46	3.47	1.74	−0.82	15.95***
Motivation	3	1	−4.13	1.94	−3.85	2.02	−2.23*[a]	0.80
Responsive bias measures								
Agreement bias	—	—	12.53	3.93	13.88	4.26	−5.25***	3.25
Evasiveness (ln)	—	—	0.48	0.67	0.61	0.66	−3.03**	0.11
Extremeness (ln)	—	—	1.91	1.07	2.51	0.90	−8.99***	13.58***

Significance levels for unweighted analysis:

* $p < .05$.

** $p < .01$.

*** $p < .001$.

[a] Significance criterion was not met for weighted analysis.

agree-disagree direction. For example, the Cost Concern scale contains the pair of items:

(A) When I think about going to the doctor I'm concerned about how much it will cost.
(B) I don't worry much about the cost when I think about going to the doctor.

Persons concerned about the cost of medical care would tend to agree with the first statement and disagree with the second, so that the two items can be considered balanced for agreement. Balancing is an important precaution if the items are affected by "acquiescence" or agreement response bias (Jordan, 1977). As shown in Table 2, the first four scales are balanced; the next two are slighty unbalanced, with one more disagree than agree item; and the seventh scale is unbalanced, with three agree-keyed items and only one disagree-keyed item.

The three response bias measures in Table 2 were also obtained from the health belief items. The agreement bias variable was obtained by scoring all 32 items in the "agree" direction regardless of content keying. The evasiveness variable was computed as a count of "don't know" and "no answer" responses. The extremeness variable was computed as the difference between the number of extreme or "strong" responses and the number of middle-category responses. In raw score form, the evasiveness and extremeness variables were markedly skewed, so the variables were normalized by adding a constant and taking logarithms.

The main message in Table 2 is that the TC sample is higher on all three response style measures. The TC sample has a greater tendency to agree, to omit responses, and to use more extreme categories. The extremeness effect is the strongest of the three response style effects, and is significant at well beyond the .001 level, with a mean difference on the order of one-half a standard deviation. By contrast, there are only minor mean differences for the seven content measures. There were slight mean differences between the HH and TC samples for the Accessibility and Motivation scales, but they were fairly small and were not robust under weighting. Note that acquiescence and content are confounded for unbalanced scales having unequal numbers of agree- and disagree-keyed items, and mean differences in acquiescence can lead to spurious mean differences on the content measures. Although there were only minor mean differences on the content measures, we found that the TC sample had larger standard deviations on all seven content measures—significantly so for five of the seven (last column of Table 2). The larger variances in the TC sample are attributable to the extremeness response bias, since the extreme

categories for the item responses contribute more than the middle categories to variances for the content scales.

OPEN-ENDED QUESTIONS AND CHECKLISTS

Another important issue in assessing the comparability of the two modes of interviewing concerns the quantity of information obtained for each method. Telephone interaction is typically faster paced than face-to-face interaction, and usually requires more verbal patter to maintain the interest and attention of respondents. Our interviewers report, for example, that routine pauses in the conversation, which can be tolerated in a face-to-face situation, often seem interminable on the telephone. They also missed visual cues for deciding when to probe or pause for a more complete response. Fleishman and Berk (1979) reported that their interviewers strongly preferred face-to-face interviewing and thought that the quality of data was better for face-to-face interviews. Such differences in the modes of interaction suggest that detailed information might be more difficult to obtain in telephone interviews. For example, Groves (1977) found a greater frequency of multiple responses to open-ended questions for the HH group, suggesting a greater facilitation of communication with household interviews. Accordingly, we compared the groups on number of responses to several open-ended questions, including (1) the number of reasons mentioned by the respondent for not seeing a doctor when a need was perceived (in the past 12 months); (2) the number of acute problems the respondent reported having within two months of the interview; (3) the number of chronic health conditions reported by the respondent; and (4) the number of medications and treatments that are currently prescribed for the respondent by a physician. As shown in Table 3, none of these differences was significant, nor was there a significant mean difference on a composite measure created by summing across all open-ended responses to the above items ($t = 1.39$, NS).

A different picture emerged, however, when we examined counts of responses to checklist items. Questions of this kind included a list of 10 preventive health behavior activities (e.g., exercising, dieting, stop smoking) and six types of health advice given by family members and friends. In the HH administration, respondents were shown a card and asked to indicate which of the statements or activities in the list applied to them. For the TC sample, each response was read separately and respondents were then asked if that particular response applied to them. In every case the TC respondents gave significantly more responses to each checklist item than the HH respondents. For

Table 3. Household-Telephone Comparisons for Open-ended and Checklist Questions, 1976

	HH Sample Mean N = 1,210	*TC Sample Mean N = 303*	*K-S Test[a] D*	*t for Mean Diff.*
Open-ended questions				
N reasons for not seeing doctor	.346	.314	.021	—
N acute problems mentioned	.346	.287	.045	—
N chronic problems mentioned	.800	.746	.029	—
N medications	.834	.838	.024	—
Sum of open-ended questions	2.326	2.185	.034	1.39
Checklist questions				
Voluntary preventive health behavior	1.037	1.399	.118**	—
Kinds of family advice	.916	1.307	.238***	—
Kinds of friend advice	.607	1.059	.219***	—
Sum of checklist questions	2.560	3.766	.240***	8.30***

** $p < .01$.
*** $p < .001$.
[a] D is the maximum absolute discrepancy between the two cumulative proportion distributions. Significance levels are for a 2-tailed, 2-sample Kolmogorov-Smirnov test of differences between the two distributions.

the health advice items, we had intended that some of the items would be contradictory, and that respondents would report on the usual or modal advice they received. For example, respondents were asked if the advice they *usually get* included "get medical advice as soon as possible" and "wait and see what happens," and we wanted to compare respondents receiving "act now" and "delay" advice from their social networks. In the TC sample, many more respondents endorsed both kinds of items, and some respondents indicated as many as five kinds of advice. As in the analysis of the attitude items reported above, this response difference between the two modes of interviewing suggests greater acquiescence in the telephone interviewing condition. On the other hand, it may be that the aim of eliciting the usual or dominant kind of advice was communicated more successfully in the face-to-face situation.

Discussion

We found that the telephone comparison sample had more missing data on family income, more acquiescence, evasiveness, and ex-

tremeness response bias, and more and somewhat contradictory answers to checklist questions. These are differences in response style rather than in item content (Jackson and Messick, 1958). For several reasons, we can probably rule out sampling fluctuations as an explanation for these response style differences between the samples. Except for the mean differences on family income (which is equivocal in view of the missing-data differences on the same question), we found no demographic differences between the samples. Also, while the attitude items yielded ample evidence for response style differences between samples, observed differences in attitude content were of marginal significance and were not robust under weighting.

These differences seem to indicate that the quality of the data obtained over the telephone was not as good as that obtained in the face-to-face situation, perhaps because TC respondents were insufficiently motivated, or were not working hard enough during the interview. There may be a special problem in telephone interviewing—that of motivating people to exert the effort required to play the respondent role (Cannell et al., 1977). Other researchers have also found poorer data quality with telephone interviews. For example, Groves (1977) found more respondent suspicion in telephone interviews, higher refusal rates, less detailed information in response to open-ended questions, and more evasiveness to sensitive questions. Yaffe et al. (1978) also found lower accuracy of reporting in telephone interviews, for their urban Baltimore sample, though not for their more rural Washington County sample.

Groves (1979) also found response bias differences between the telephone and household samples, on both income and attitude scale questions. The biases showed up as differential preferences or "sensitivity" for the response categories of the scales. He called attention to interviewers, interviewees, and questions as sources of the observed differences—which pretty well exhausts the potential sources, except perhaps for purely technical matters like voice-quality transmission.

As in Groves's research, it is not clear which of these sources is really responsible for the observed differences. We have characterized the biases as "response styles," and the words "acquiescence," "extremeness," and "evasiveness" seem to imply interviewee traits that are differentially elicited by the modes. Singer (1979) has even suggested that telephone respondents might be more acquiescent, since they agreed to a mode of interviewing which is easier to refuse than a face-to-face interview. The observed differences could be partly due to interviewer differences, however, since we know that the interviewers did not like the telephone mode

as well as the face-to-face mode, and also that interviewer differences and expectations can affect responses (Singer and Kohnke-Aguirre, 1979; Sudman et al., 1977). Finally, despite our intentions, question formats could not be made completely identical for the two modes, since flash cards can present response options simultaneously in the face-to-face situation, but the same options must be presented serially over the telephone. Groves suggested that research might focus on adapting the questions to the telephone. Such research would concentrate less on comparing telephone and face-to-face interviewing and more on comparing alternate ways of asking questions on the telephone. On-line monitoring and computer-assisted telephone interviewing provide more control over the interviewing process than ever before, as well as more opportunities to make these comparisons experimentally and in the laboratory (Singer, 1979).

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The Polls: Changing Attitudes and Policies Toward China

CONNIE DE BOER

A NUMBER of far-reaching changes have occurred inside China during recent years in the areas of administration, ideology, and economy. These developments, which also include such events as the fall of the "Gang of Four" and the new 10-year plan which aims at rapid modernization, are accompanied by a growing rapprochement between China and Western countries. Overtures have also been undertaken from the West. In 1971 China was admitted to the United Nations, in 1972 President Nixon visited China, and late in 1978 China was finally recognized by the United States. In addition, both parties have been seeking reciprocal trade relations.

All these changes are reflected in the public opinion with respect to China. Even the designation of China in the questions used in public opinion studies affords a striking illustration of the changing attitude toward China: In 1979 the name People's Republic of China is used, and there is reference to Communist China only in those cases where a distinction must be made from Taiwan in a question. Up to 1971 the only names used in the questions were China, Red China, and Communist China. All four of these designations were handled from 1971 to 1979—the period of transition. This pattern applies only to American opinion studies.

In France, IFOP used the name Chinese People's Republic as early as 1966, and in Great Britain the designation is usually just China (with the exception of the years 1962 and 1963).

The opinion surveys collected for this Polls section have for the most part been carried out in the United States. To allow comparisons to be made, materials have in some cases also been included from Great Britain, West Germany, the Netherlands, and France. The reason for this geographic restriction is that the changes in the American public opinion with respect to China are more spectacular than those in the countries of western Europe. Consider this example:

Regarding the entry of China into the United Nations, the percentage of advocates of this accession among the American public rose from 7 percent in 1954 to 45 percent in 1971. In Great Britain the percentage of supporters during roughly the same period remained more or less constant at about 50 percent.

Appreciation for China generally changed in the United States during the period 1967–1979 from emphatically negative to a positive attitude. China's war with Vietnam, which broke out after the diplomatic recognition of

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China, deflected the trend somewhat and the Chinese image in the United States was again impaired. But diplomatic recognition of China is nevertheless supported by an ample majority of the American public. High hopes are placed in the expected growth of trade with China. Disapproval is only felt for the effects which the diplomatic recognition of China has or may have upon the relations between the United States and Taiwan.

Our sincere thanks go to the following institutions for their ready permission to publish the results of surveys conducted by them:

AIPO—American Institute for Public Opinion, USA
CBS—CBS News, USA
DMS—Institut für Demoskopie, Allensbach, West Germany
Gallup International
Harris—ABC News–Harris Survey, USA
IFOP—Institut Français d'Opinion Publique, France
NIPO—Netherlands Instituut voor de Publieke Opinie, Netherlands
SOC—Social Surveys (Gallup Poll) Ltd., Great Britain
Veldkamp—Veldkamp Marktonderzoek BV, Netherlands

All data are based on nationwide representative samples of adults. The data indicated with the research results are consistently those on which the polls were published. Breakdowns are available when the table is marked with an asterisk. Those interested in these data may apply to: The Polls Archives, Weteringschans 100–02, Amsterdam, Netherlands.

Changing Attitudes Toward China

USA—CBS: *How would you rate your feelings toward different countries? Are your feelings toward [read country] generally favorable, generally unfavorable, or neutral?* (Jan 1979)

	Favorable	*Neutral*	*Unfavorable*	*No Opinion*
Mainland China	26%	44%	24%	6%
Russia	15	38	41	6

USA—AIPO: *How far up or down the scale would you rate China?*

	1967	*May 1972**	*1973**
+5	—	3%	6%
+4	—		4
+3	1%		12
+2	2	20	10
+1	2		17
−1	5		10
−2	4	25	6
−3	7		7
−4	8	46	5
−5	67		15

USA—Harris: *As far as you are concerned, do you feel that [read list] is a close ally of the U.S., is friendly but not a close ally, is not friendly but not an enemy, or is an enemy of the U.S.?*

	Close Ally	*Friendly*	*Not Friendly*	*Enemy*	*Not Sure*
The Soviet Union					
1976	1%	20%	39%	30%	10%
1979	3	21	38	27	11
The People's Republic of China					
1976	1%	22%	43%	25%	9%
1979	6	45	23	9	17

USA—CBS: *Do you think that right now the United States government is more favorable towards Russia, more favorable towards China, or is our policy evenhanded towards these two countries?* (Mar 1979)

Russia	10%
China	34
Evenhanded	37
No opinion	19

Great Britian—SOC: *Do you think that Britian's relationship with these countries is too close, not close enough, or about right?*

	Mar 1967	*June 1978*	*Jan 1979*	*July 1979*
Russia				
Too close	8%	15%	12%	9%
Not close enough	37	26	27	34
About right	41	41	43	45
Don't know	14	19	18	13
China				
Too close	9	8	7	9
Not close enough	34	29	34	36
About right	28	38	38	38
Don't know	29	25	21	18
USA				
Too close	25	12	11	15
Not close enough	13	16	14	17
About right	50	60	62	60
Don't know	12	12	13	9

France—IFOP: *Which opinion: good or bad, or neither of these, do you have of the Chinese People's Republic?* (Nov 1966)

Good	11%
Neither good nor bad	24
Bad	32
No answer	33

Netherlands—NIPO and Veldkamp: *Would you please look at this list and tell me which words, in your opinion, describe the Chinese people best? Select as many as you wish. Which words do you choose?*

	NIPO			Veldkamp
	1948	*1966*	*1968*	*1973*
Peace-loving	9%	4%	3%	16%
Hardworking	12	44	35	64
Progressive	4	23	18	44
Practical	3	10	10	18
Generous	2	4	2	3
Intelligent	7	15	8	19
Self-possessed	9	19	10	25
Brave	9	17	17	23
Conceited	2	5	6	5
Domineering	2	47	40	30
Backward	20	23	22	12
Cruel	12	37	34	16
No answer	54	12	17	
	m	m	m	m

(m = multiple answers)

Admittance of China as a Member of the UN

USA—AIPO: *Do you think that Communist China should or should not be admitted as a member of the United Nations?*

	Should	*Should Not*	*No Opinion*
1950	11%	58%	31%
July 1954	7	78	15
Aug 1954	8	79	13
1956	11	74	15
1957	13	70	17
1958	17	66	17
Oct 1961	18	65	17
Feb 1964	15	71	14
Apr 1966	25	55	20
Feb 1969	33	54	13
Oct 1970	35	49	16
May 1971	45	38	17

Great Britain—SOC: *Do you think China [Red China, in 1962 and 1963] should or should not be admitted as a member of the United Nations?*

		Should	*Should Not*	*Don't Know*
(BIPO)	June 1953	52%	21%	27%
(SOC)	Oct 1962	45	34	21
	Sep 1963	48	23	29
	Dec 1964	54	13	33
	Sep 1965	41	19	40
	Oct 1966	49	24	27
	Sep 1967	47	25	28
	Feb 1968	54	23	23
	Feb 1970	45	22	33
	Apr 1970	42	24	34
	Sep 1970	47	26	26
	Dec 1970	51	23	26
	May 1971	54	20	26
	July 1971	59	16	25

West Germany—DMS: *The United Nations wants to organize a vote before the end of the year on whether the People's Republic of China, or Red China, should or should not be admitted to the United Nations. At this time, Nationalist China, or Formosa, is the only representative of China in the United Nations. You see here three views on this question. Which of these would you be in favor of?* (Oct/Nov 1971*)

I am in favor of the People's Republic of Red China being admitted to the United Nations and of Nationalist China remaining a member of the UN.	49%
I am in favor of the People's Republic of China being admitted to the UN, to take the place of Nationalist China, which should then no longer be a member of the UN.	13%
I am in favor of Nationalist China remaining the only representative of China in the UN, and of the People's Republic of China not being admitted to the UN.	9%
Undecided, no opinion	29%

Diplomatic Recognition of the People's Republic of China

USA—Harris: *It has been argued that we could deal with the People's Republic of China (Communist China) better if we officially recognized them. This would allow us to have an ambassador in China as we have in other Communist countries. Do you favor or oppose official recognition of Red China?*

	Favor	*Oppose*	*Not Sure*
1966	43%	33%	24%
1967	41	34	25
1968	39	44	17
1971	55	20	25
1977	62	18	20
1978	66	25	9

The United States and the People's Republic of China have agreed to full diplomatic recognition of each other, including the exchange of ambassadors. Do you favor or oppose our official recognition of the People's Republic of China? (Jan 1979)

	Favor	*Oppose*	*Not Sure*
Total	60%	27%	13%
Age: 18–29	66	24	10
30–49	65	25	10
50–64	52	32	16
65 and over	50	28	22
Education: 8th grade	34	37	29
High school	55	31	14
College	73	20	7

All in all, do you feel that President Carter, in breaking our diplomatic ties with Taiwan, gave up a reasonable amount to get agreement with the Chinese, or that he gave up too much? (Mar 1979)

Gave up a reasonable amount	38%
Gave up too much	45
Not sure	17

As you look back on it now, do you think we were right or wrong to have agreed to official diplomatic recognition of the People's Republic of China? (Mar 1979)

More right	62%
More wrong	22
Neither (vol.)	2
Not sure	14

Now let me ask you about some of the specific parts of the U.S.–Chinese agreement to diplomatic recognition. Do you approve or disapprove of the U.S. agreeing that [read list] (Jan 1979)

	Approve	*Disapprove*	*Not Sure*
We would not sell military arms to the People's Republic of China	72%	21%	7%
We would withdraw official diplomatic recognition of the Nationalist government in Taiwan, but would continue to trade with them	45	44	11
We would continue to sell military arms to the Nationalist government in Taiwan	43	47	10
By 1980, we will cancel our defensive alliance with the Nationalist government in Taiwan	32	52	16
We recognize that Taiwan is part of mainland China, which is controlled by the Communists	29	57	14

Gallup International—Australia: *Do you think Australia should or should not recognize the Peking Government?*

	Recognize	*Don't Recognize*	*Undecided*
1951	22%	46%	32%
1958	41	34	25
1964	35	37	28
1969	47	33	20

Do you think Australia should or should not recognize the Communist government in Peking as the Government of China?

1970	49%	35%	16%
1971	56	19	25

USA—Harris: *Should we end our defensive alliance with the Nationalist government on Taiwan*

	1976	*1977*	*1978*
Continue defensive alliance	65%	57%	64%
End defensive alliance	6	12	19
Not sure	29	31	17

USA—CBS: *Do you think that Jimmy Carter should have pushed for closer ties with Communist China even though that meant breaking off relations with the Chinese Nationalists on Taiwan?*

	Should	*Should Not*	*No Opinion*
Jan 1977	28%	42%	30%
Dec 1978	27	45	28
Jan 1979	32	46	22

USA—Harris: *Our country has officially recognized the Nationalist Chinese government in Taiwan for many years. We also have a defensive treaty alliance with that government and sell them military weapons, such as warplanes. Communist China feels strongly that the United States cannot recognize the Nationalist Chinese on Taiwan and also have normal relations with the Communist Chinese government. Should we continue our diplomatic recognition of Taiwan, or should we withdraw that recognition in order to have better relations with Communist China?*

	1977	*1978*
Continue recognition	62%	66%
Withdraw recognition	11	19
Not sure	27	15

USA—AIPO: *Some people feel that establishing relations with the People's Republic of China was an important enough reason to break off diplomatic relations with Taiwan. Other people feel that it was wrong to end relations with Taiwan, in order to establish relations with the People's Republic of China. Which position comes closest to your own view?* (Jan. 1979)

Wrong	47%
Important enough	35
No opinion	18

Trade with the People's Republic of China

USA—Harris: *Would you like to see [read list] happen or not?* (Oct. 1977)

	Like	*Not Like*	*Not Sure*
An agreement between the U.S. and China on control of nuclear weapons	79%	10%	11%
More exchange of cultural missions between the two countries	76	12	12
Increased trade of sports teams between the two countries	75	13	12
Increased trade in nonstrategic goods between the U.S. and the People's Republic of China	64	21	15

Would you like to see [read list] happen or not? (Sep. 1978)

	Like	*Not Like*	*Not Sure*
Increased trade in nonstrategic goods between the U.S. and Communist China	62%	30%	8%
The U.S. work together with Communist China as a force against Russia	20	71	9
The sale of U.S. electronic military defense systems to Communist China	11	81	8

Now let me ask you, would you like to see the U.S. trade more with [China], less, or about as much as it does now?

Mar. 1977				*Mar. 1979*			
More	*Less*	*As Much*	*Not Sure*	*More*	*Less*	*As Much*	*Not Sure*
30%	25%	33%	12%	40%	24%	28%	8%

Great Britain—SOC: *Would you like to see every effort made to increase trade with Communist China or are you against such a policy?*

	Sep 1963	*Jan 1979*
Increase trade	43%	58%
Against policy	26	21
Don't know	31	21